Power Crunch Could Lead to Lots More Lines (USA Today)

To meet the nation's fast-growing demand for electricity, utilities are planning to string thousands of miles of high-voltage power lines across the USA in a building frenzy that could mar some of the country's most precious open spaces.

The largest crop of transmission-line projects since the 1970s initially would deliver inexpensive, surplus electricity -- much of it coal-generated -- from the Midwest and Northwest to more densely populated urban centers along the East Coast and western Sunbelt. Eventually, other parts of the country could be crisscrossed by networks that begin to resemble the vast interstate highway system.

The delivery lines, many to be completed in five to eight years, aim to stabilize soaring electricity prices for consumers and prevent outages in an era when it's often costly and impractical to build power plants in metropolitan areas. The Northeast blackout of 2003 was largely blamed on an overtaxed transmission grid.

But environmental advocates fear the multiple wires and typical 135-foot-tall latticework towers that support them will depress property values and spoil some of the nation's most rustic byways, from Civil War battlefields in Virginia to wildlife refuges in Oregon. Some say utilities are charging too hastily into the projects before examining alternatives, such as building smaller power plants closer to customers and promoting energy conservation.

State regulators have blocked or slowed many proposed transmission lines in recent years because of such concerns. But the Energy Policy Act of 2005 gives the federal government new authority to overrule state decisions and designate special corridors for high-voltage wires, emboldening once-reticent investors to make hundreds of proposals.

"If we are to continue to have a strong economy and continue to meet America's growing demand for electricity, we have got to take proactive measures to ensure our ability to deliver electricity is unimpeded," says Kevin Kolevar, a director for the Energy Department. "So the federal government now has a seat at the table."

The USA's ravenous appetite for electricity is stimulated by its population and business growth, but it is also a byproduct of a robust economy. Average new homes are nearly 50% larger than those built 30 years ago and require more power to cool or heat. Armadas of computers, plasma-screen TVs and computer-server farms that power websites also draw on the electric grid.

Demand for electricity is predicted to jump 19% in the next decade. But miles of transmission lines should rise just 7%, the North American Electric Reliability Council (NERC) says.

Overloaded wires that prevent cheap coal- or wind-based electricity from being zapped across regions force utilities to buy more expensive power from closer facilities, such as natural-gas generators. The price of congestion totaled $4.6 billion in additional costs in the nation's five big wholesale markets last year, says Cambridge Energy Research Associates. Such costs are likely to be passed to consumers.

If nothing is done to alleviate the bottlenecks, they are projected to worsen and possibly lead to periodic rolling blackouts in some areas in five to 10 years, says reliability council manager Stanley Johnson. A recent Energy Department study identified "critical congestion areas" from New York to Northern Virginia, and in Southern California. Areas of concern include New England, Phoenix, and San Francisco.

New direction

The scramble for power is forcing utilities to change the way they've operated for decades.

Until the mid-1990s, they built transmission lines to link customers to their power plants within the regions they served. Deregulation spawned a new crop of competing power producers. Utilities and new, independent investors were expected to build souped-up delivery lines that spanned regions to tap fresh power sources and meet surging demand. Few projects materialized, partly because regulators allowed modest investment returns.

Regulators are permitting higher returns now.

An even bigger holdup has been state regulators who haven't wanted to sanction unsightly wires and towers on their turf, especially when their state's residents might see little benefit, says Cambridge Energy Senior Director Larry Makovich. In theory, though, more transmission lines benefit everyone in a region because power can be directed where it's needed across the interconnected power grid.

Some projects bog down as federal agencies take pains to protect federally owned streams and forests. It took American Electric Power (AEP) 13 years to get state and federal permits for a 90-mile line from West Virginia to Virginia that was activated in June. It took just 2 1/2 years to build.

To break the logjam, the 2005 federal law requires the Energy Department to designate "national interest electric transmission corridors" where bottlenecks are harming consumers. If a project in a corridor is rejected by a state or gets mired in the state permit process for more than a year, developers can appeal to the Federal Energy Regulatory Commission for relief. FERC also can use eminent domain to seize private property.

This year, investors and local governments have proposed 11 "national interest" corridors. Most are tied to specific plans for projects in the corridors. For example, Allegheny Power and Dominion Virginia Power plan a 240-mile, 500,000-volt line from

a southwest Pennsylvania substation to Northern Virginia, where demand is poised to grow 8% by 2011.

"The transmission lines that we have now are overloading," says Dominion Vice President John Smatlak, noting the utility had to cut voltage during a 2005 hot spell, reducing home appliances' output. "We need it to keep the lights on."

Yet the Piedmont Environmental Council says the area Dominion is considering for the line includes Civil War battlefields, parts of the Appalachian Trail and 80,000 acres of farms and forests intended to be forever shielded from development via special landowner contracts.

"We're concerned that years of conscientious investment protecting natural and heritage land resources can be done away with," says Bob Lee, who heads the Virginia Outdoors Foundation.

Dominion believes there are routes that will sidestep most of the sensitive areas, Smatlak says.

Others worry that mammoth lines could spoil their neighborhoods and hurt home values. Shirley Wilt, 60, of York Haven, Pa., fears AEP's proposed 550-mile line from West Virginia to New Jersey might slice through part of her 3-acre hillside property, passed down from her great-grandfather. "Who wants an ugly power line?" she says. "I feel if you need electricity, put it in your own backyard. It's not going to be used by us." If a line must be built, she adds, "Why not follow the Pennsylvania Turnpike?"

AEP Senior Vice President Michael Heyeck says it's virtually impossible to build coal plants and wind farms in East Coast population centers. AEP, he adds, tries to exploit existing rights of way, such as highways, but that "doesn't necessarily work out" because they're used by other utilities. He says the line should mitigate the need for rate increases in the mid-Atlantic region, though monthly bills would rise by $1 indefinitely to fund the $3 billion project.

Other projects could yield more tangible benefits. A planned 190-mile line from central New York near Utica downstate to Orange County should cut electric bills by 8% for New York City residents, says William May, project manager for New York Regional Interconnection, the investor group building it. But Upstate customers will see a 7% rate increase because the project will shrink that area's power surplus. That enrages Upstate residents already opposed to the line because of its impact on a rustic region that includes the Upper Delaware Scenic and Recreational River.

"It's going to split our little village,' says Michael Hornbuckle, owner of Otisville Hardware in Otisville, N.Y.

Skeptics' distrust

Some opponents wonder if their voices will still count, fearing that the new corridors all but assure that federal regulators will overrule states that stand in the way.

"The fix is in," says John Hanger, head of PennFuture, a state conservation group.

FERC director J. Mark Robinson disagrees. "We develop what we think is the least environmentally damaging project," he says.

He says FERC could order a developer to take an alternate route, or even deny a project if it's not the most viable energy solution. And the Energy Department announced Thursday it will allow public comment on any proposed corridor before finalizing it.

In the West, packed with 260 million acres of federal land, proposed high-voltage lines will also benefit from a different kind of energy pathway that simplifies federal approvals. Now, it can take many months to get clearance from agencies to cross the terrain. Sweeping environmental-impact studies must be done, and local offices of the U.S. Forest Service and other agencies must sign off. The new rules streamline the review and set clear building standards within a pathway. They also ensure a line can be built somewhere in the 3,500-foot-wide artery.

The pathways already have helped spur several power line plans in the West. Arizona Public Service is spearheading development of two, roughly 1,000-mile, 500,000-volt transmission lines from Wyoming coal and wind sources to Phoenix, where population growth is projected to boost power demand 60% by 2020. Eventually, the $2.5 billion project could link to Southern California.

But last summer, a preliminary map of potential energy pathways in the West raised alarm bells with the Wilderness Society, which said they will threaten national monuments, parks and wildlife refuges.

"It would be helpful if they were putting them where they were truly needed and designating them so they did not forever destroy public lands," says Nada Culver, a lawyer for the group.

Scott Powers, a project manager in the Bureau of Land Management, says the roughly drawn blueprints were misinterpreted. "At the end of the day, there's going to be very little impact" to national parks, monuments and refuges, he says.

Still, some brand as misguided the focus on transmission lines, saying it promotes development of polluting coal plants even as the government seeks to cap carbon emissions to fight global warming.

Planners should first study other options, says Richard Cowart of the Regulatory Assistance Project, a consulting firm. New technology, for instance, can beef up existing transmission lines. Better government incentives could prod more factories to build their

own plants and consumers to install solar systems, saving the 8% energy losses that occur on high-voltage lines.

Other solutions include government promotion of energy-efficient appliances and programs that reward companies for paring peak-period power usage. Energy efficiency can slash as much as 20% of a state's demand, he says.

"What we do not have is a transmission planning process that openly examines the alternatives," Cowart says, adding the new rules imprudently tilt the playing field toward new transmission lines.

Audrey Zibelman, executive vice president of PJM Interconnection, which manages the mid-Atlantic grid, supports such strategies but says planners can't wait for them to bear fruit to address urgent power needs. "It's not an either-or proposition," she says. "You have to look at things holistically."